

Fivemile

Fivemile Overview

Volunteers monitored Fivemile Lake in the 1980s, continuing from 1994 through 2004. Current data identify this lake as moderately high in primary productivity (mesotrophic) with good water quality.

Fivemile Lake has no public access boat ramp, but car top boats may be launched from the county park on the eastern shoreline. Residents should keep a watch on aquatic plants growing nearshore to catch early infestations of Eurasian milfoil, Brazilian elodea or other noxious aquatic weeds.

Physical Parameters

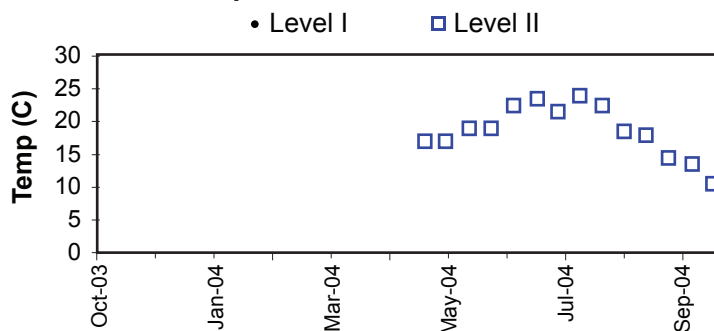
The Secchi transparency during the sampling season was between 0.5 and 1.5 m, averaging 1.1m which was the 3rd lowest of the small lakes measured in 2004. Surface water temperatures reached 24.0 degrees Celsius, putting in the lower range of the summer maxima recorded for the group.

There were no precipitation or water level records for the year.

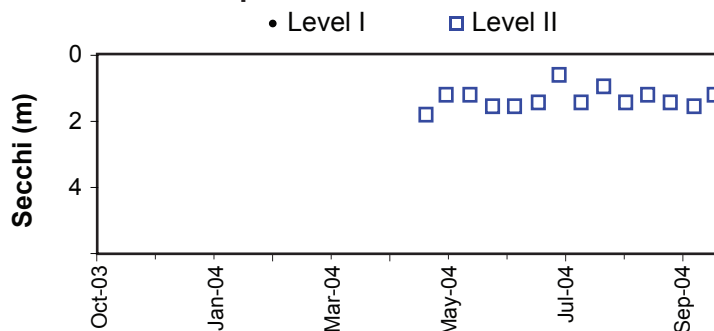
Nutrient Analysis and TSI Ratings

Total nitrogen and phosphorus varied on a small scale through the sampling period, with nitrogen declining in late summer and rising again in late October. Nitrogen levels were quite high, compared to many of the other small lakes in the County. The N:P ratio ranged from 31 to 72, averaging 49 and suggesting generally poor conditions for nuisance bluegreen blooms.

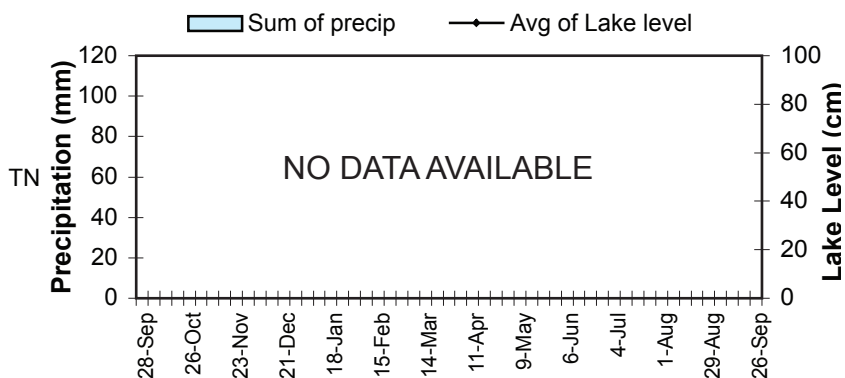
Lake Temperature



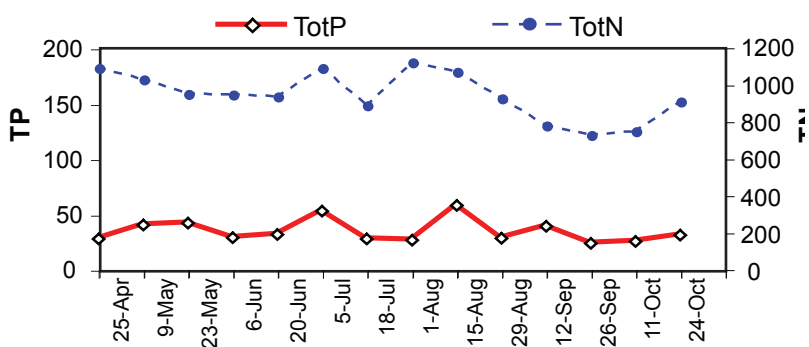
Secchi Depth



Lake Level and Precipitation



Nutrient Analysis



Profile data indicated that thermal stratification was strong, but there was little or no phosphorus increase in the deep water over the period. Chlorophyll data indicated that algae were more abundant near the surface, likely in response to reduced light penetration from the water coloration.

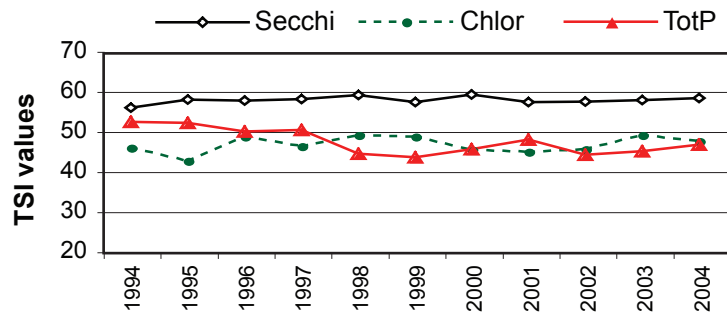
The 2004 TSI-Secchi was again considerably higher than other TSI values, while the other two indicators are in the mesotrophic range, appearing to be relatively stable since 1998. The deep tea color of the water impacts the ability of the TSI to measure productivity, so it was not included in the trophic evaluation.

Chlorophyll Concentrations and Algae

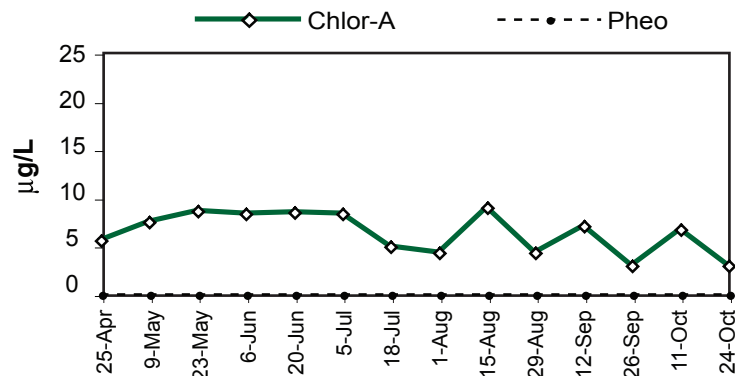
Chlorophyll concentrations at 1m made a broad plateau in May - June, then varied in the same range during the latter part of the season. The spring community was dominated by the bluegreen *Aphanizomenon flos-aquae*, while summer and fall was characterized by the chrysophyte *Gloeobotrys* and the colonial bluegreen *Woronichinia*. Other common taxa included species of the chrysophyte *Dinobryon* and colonial chlorophytes.

Date	Secchi	depth-m	degC	Chlor-A	TP µg/L	TN µg/L
5/23/04	1.0	1	19.0	8.65	25.0	950
		5	7.5	<detect	18.9	1130
		9	7.0		29.9	1080
8/29/04	1.2	1	18.5	4.30	16.7	927
		5	7.5	1.70	16.5	1030
		8	5.0		34.0	1060

TSI Ratings



Chlorophyll a Concentrations (µg/L)



Common Algae

	Group
<i>Aphanizomenon flos-aquae</i>	Cyanobacteria
<i>Gloeobotrys</i> sp.	Chrysophyta
<i>Woronichinia</i> sp	Cyanobacteria

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2004 Level I Data not available

2004 Level II Data

Date (2004)	Temp (°C)	Secchi (m)	Chl-a (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI		
								Secc	chl-a	TP
25-Apr	17.0	1.5	5.61	16.5	1090	2	66	54.1	47.5	44.6
9-May	17.0	1.0	7.53	24.1	1030	3	43	60.0	50.4	50.1
23-May	19.0	1.0	8.65	25.0	950	3	38	60.0	51.7	50.6
6-Jun	19.0	1.3	8.33	17.0	947	1	56	56.2	51.4	45.0
20-Jun	22.5	1.3	8.49	18.9	936	2	50	56.2	51.6	46.6
5-Jul	23.5	1.2	8.33	31.3	1090	3	35	57.4	51.4	53.8
18-Jul	21.5	0.5	4.97	16.3	890	3	55	70.0	46.3	44.4
1-Aug	24.0	1.2	4.33	15.6	1120	3	72	57.4	44.9	43.8
15-Aug	22.5	0.8	8.97	34.5	1070	1	31	63.2	52.1	55.2
29-Aug	18.5	1.2	4.33	16.7	927	1	56	57.4	44.9	44.8
12-Sep	18.0	1.0	7.05	23.2	778	3	34	60.0	49.7	49.5
26-Sep	14.5	1.2	2.98	14.1	729	1	52	57.4	41.3	42.3
11-Oct	13.5	1.3	6.73	15.2	748	1	49	56.2	49.3	43.4
24-Oct	10.5	1.0	3.00	18.6	909	1	49	60.0	41.3	46.3
	Temp (°C)	Secchi (m)	Chl-a (µg/l)	TP (µg/l)	TN (µg/l)	Algae	N:P	Calculated TSI		
								Secc	chl-a	TP
Mean	18.6	1.1	6.4	20.5	943.9	2.0	49	59.0	48.1	47.2
Median	18.8	1.2	6.9	17.8	941.5	2	49	57.4	49.5	45.7
Min	10.5	0.5	3.0	14.1	729.0	1	31	54.1	41.3	42.3
Max	24.0	1.5	9.0	34.5	1120.0	3	72	70.0	52.1	55.2
Count	14	14	14	14	14	14	14	14	14	14

TSI Average = 51.4